

IN THE CLAIMS:

Please cancel Claims 1-9 and 12-18 without prejudice.

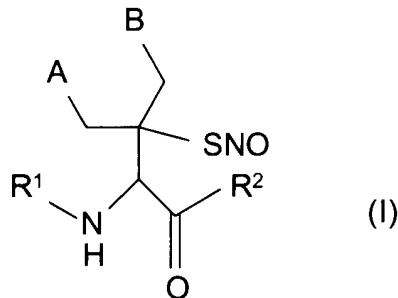
Please add Claims 19-37 as follows:

Claims 1-9 (Cancelled)

Claims 10-11 (Previously Cancelled)

Claims 12-18 (Cancelled)

Claim 19 (New) S-nitrosothiol derivative of penicillamine or glutathione of formula I:



or its pharmaceutically acceptable salt thereof,

in which:

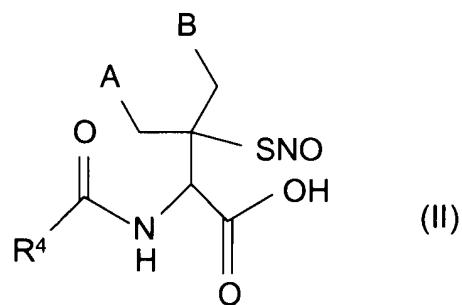
A and B are phenyl groups or together form the group $-\text{CH}_2\text{-Q-CH}_2-$ constituting a six membered ring in which Q represents oxygen, sulfur, or a group N-R^3 , in which R^3 is hydrogen or an alkyl group $\text{C}_1\text{-C}_4$;

R^1 is an acyl group, which may be an aliphatic $\text{C}_1\text{-C}_5$ acyl group or a glutamic acid acyl group bonded via its gamma carboxyl group;

R^2 is a hydroxyl group or a glycine group bonded via a peptide bond;

with the proviso that if R^1 is an aliphatic acyl group, then R^2 is a hydroxyl group, and if R^1 is a glutamic acid acyl group, then R^2 is a glycine group.

20. (New) The S-nitrosothiol derivative of Claim 19 having the formula:



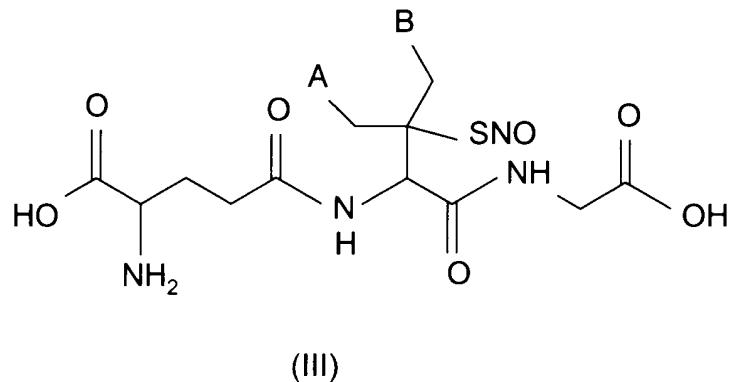
wherein R^4 is a C_1 - C_4 alkyl group.

21. (New) The S-nitrosothiol derivative of Claim 19 which is N-acetyl-2-amino-2-[4-(4-S-nitrosomercaptotetrahydropyran)] acetic acid.

22. (New) The S-nitrosothiol derivative of Claim 19 which is N-acetyl-2-amino-2-[4-(4-S-nitrosomercapto-1-methylpiperidin)] acetic acid.

23. (New) The S-nitrosothiol derivative of Claim 19 which is N-acetyl-2-amino-3-benzyl-3-S-nitrosomercapto-4-phenylbutanoic acid.

24. (New) S-nitrosothiol of Claim 19, having the following formula III:



25. (New) The S-nitrosothiol derivative of Claim 19 which is N[N- γ -L-glutamyl-2-amino-2-(4-(4-S-nitrosomercapto) tetrahydropyran))acetyl]glycine.

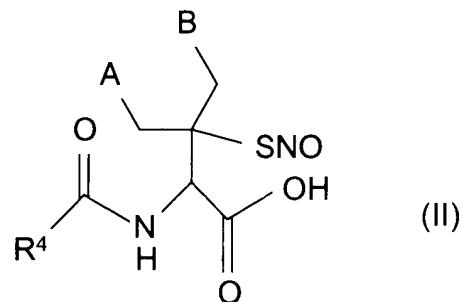
26. (New) The S-nitrosothiol derivative of Claim 19 which is N[N- γ -L-glutamyl-2-amino-2-(4-(4-S-nitrosomercapto-1-methylpiperidin))acetyl]glycine.

27. (New) The S-nitrosothiol derivative of Claim 19 which is N[N- γ -L-glutamyl-2-amino-3-benzyl-3-(S-nitrosomercapto)-4-phenylbutanoyl]glycine.

28. (New) A method for the treatment of dysfunctions of the circulatory system in a subject in need of such treatment comprising administering thereto a medicament having a platelet aggregating inhibiting-effective amount of the S-nitrosothiol derivative of Claim 19.

29. (New) A pharmaceutical composition comprising a platelet aggregating inhibiting effective amount of the S-nitrosothiol derivatives of Claim 19 and a pharmaceutical carrier therefor.

30. (New) The pharmaceutical composition according to Claim 29 wherein the S-nitrosothiol derivative has the formula



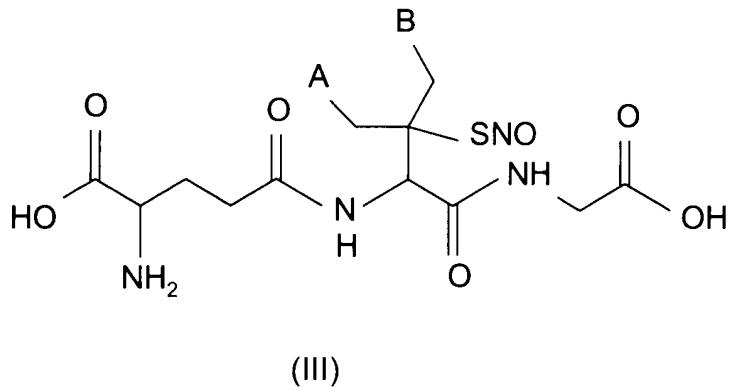
wherein R⁴ is a C₁-C₄ alkyl group.

31. (New) The pharmaceutical composition according to Claim 29 which is N-acetyl-2-amino-2-[4-(4-S-nitrosomercaptotetrahydropyran)] acetic acid.

32. (New) The pharmaceutical composition according to Claim 29 which is N-acetyl-2-amino-2-[4-(4-S-nitrosomercapto-1-methylpiperidin)] acetic acid.

33. (New) The pharmaceutical composition according to Claim 29 which is N-acetyl-2-amino-3-benzyl-3-S-nitrosomercapto-4-phenylbutanoic acid.

34. (New) The pharmaceutical composition according to Claim 29 wherein the S-nitrosothiol derivative has the formula



35. (New) The pharmaceutical composition according to Claim 29 wherein the S-nitrosothiol derivative is N[N- γ -L-glutamyl-2-amino-2-(4-(4-S-nitrosomercapto) tetrahydropyran))acetyl]-glycine.

36. (New) The pharmaceutical composition according to Claim 29 wherein the S-nitrosothiol derivative is N[N- γ -L-glutamyl-2-amino-2-(4-(4-S-nitrosomercapto-1-methylpiperidin))acetyl]glycine.

37. (New) The pharmaceutical composition according to Claim 29 wherein the S-nitrosothiol derivative is N[N- γ -L-glutamyl-2-amino-3-benzyl-3-(S-nitrosomercapto)-4-phenylbutanoyl]glycine.